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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,413	01/16/2002	Charles Eric Pearce	PGI6044P0321US	6108
32116	7590	07/23/2004	EXAMINER	
WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661			TORRES VELAZQUEZ, NORCA LIZ	
		ART UNIT	PAPER NUMBER	
		1771		

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/050,413	PEARCE ET AL.
	Examiner	Art Unit
	Norca L. Torres-Velazquez	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 June 2004.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 and 8-10 is/are pending in the application.

4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6 and 8-10 is/are rejected.

7) Claim(s) 6 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1)  Notice of References Cited (PTO-892)

2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 011602 012604.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 1, 2004 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed June 1, 2004 have been fully considered but they are not persuasive.

a. Applicants argue that the Kirayoglu reference is limited to the formation of "jet tracks" and state that this is an artifact of hydroentanglement that is ordinarily to be avoided. Further that Kirayoglu is absent of any teachings of post-hydroentanglement processing and conclude that it teaches away from any post-hydroentanglement treatment.

Applicants arguments are noted, but it is the Examiner's position that the present invention as claimed does not preclude a hydroentangled filter media with the "jet tracks" formed in the reference of Kirayoglu. With regards to Applicants arguments indicating that the reference teaches away from any post-hydroentanglement treatment, it is noted that silence or lack of disclosure is teaching away.

b. With regards to the secondary reference of Haid, Applicants argue that it teaches away from a fabric formed predominantly of polyester fibers and further argue that Haid

teaches heat-bonding prior to hydroentanglement and heat treatment can be “optionally” effected after hydroentanglement.

It is noted that the Kirayoglu reference teaches the use of polyester fibers in the production of fabrics used for filter media and the Examiner is relying in the Haid reference to provide the limitation of heat fusing after hydroentanglement. The Examiner agrees with Applicants characterization of the Haid reference in which the post-treatment is optional. In spite of that Haid teaches heat-setting the fusible fibers after hydraulic needling to stabilize the web surface and increase web durability and abrasion resistance. (Col. 2, lines 26-32) It is the Examiner’s position that while the post-treatment is optional, the enhanced properties inherent to the treatment is motivation enough to apply it to Kirayoglu’s fabric.

c. Applicants argue that the prior art of record doesn’t have the novel *strength characteristics* of the hydroentangled filter media of the present invention.

It is the Examiner’s position that the strength characteristics claimed by Applicants would be inherent to the fabric of Kirayoglu once heat-treated as taught by Haid. It is noted that reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

### ***Claim Objections***

3. Claim 6 is objected to because of the following informalities: it is dependent on claim 4 which has been withdrawn. The Examiner assumes that this is a typographical error and claim 6 is meant to be dependent on independent claim 5. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over KIRAYOGLU (US 4,556,601) in view of HAID et al. (US 5,240,764).

KIRAYOGLU discloses a heavyweight, nonapertured, nonwoven fabric of hydraulically entangled synthetic organic staple fibers with a unit weight of 200 to 850 g/m<sup>2</sup> (6 to 25 oz/yd<sup>2</sup>). (Abstract, and Column 2, lines 25-28) The reference teaches the use of staple fibers of poly (ethylene terephthalate). (Column 2, lines 47-50) The reference further teaches that such heavyweight fabrics are desired in uses such as heavy-duty gas filtration. (Column 1, lines 55-56) However, KIRAYOGLU is silent to heat-treat the filter media.

HAID et al. discloses a process to make a spunlaced nonwoven fabric that includes hydraulically needling the fibers of the web to entangle them in a three-dimensional state and teaches heat setting the fibers to stabilize the web surface and increase the web durability and abrasion resistance. (Column 2, lines 6-32) The reference also teaches using polyester fibers. (Column 3, lines 4-15)

Since both references are directed to hydroentangled nonwoven webs, the purpose disclosed by HAID et al. would have been recognized in the pertinent art of KIRAYOGLU.

With regards to the presently claimed properties of a Mullen burst strength of at least about 395 psi, and machine-direction and cross-direction shrinkage of less than about 3% at 350°F and the claimed strip tensile and cross-direction strip tensile would inherently be present once the KIRAYOGLU product is modified to have more durability and abrasion resistance by heat-treating the web. It is noted that reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the nonwoven fabric of KIRAYOGLU and provide with a heat-treatment with the motivation of increasing the web durability and abrasion resistance as disclosed by HAID (Column 2, lines 6-32).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*NLTV*

Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

July 19, 2004